

WHAT IS CLAIMED IS:

1. A cool air circulating blower for a refrigerator comprising:

5 a blowing fan connected to a motor via a rotating shaft of the motor for blowing cool air with rotation of the motor;

a shroud having a central hole formed therethrough for guiding air flow, the blowing fan being disposed inside the central hole; and

10 air flow guiding means formed around the central hole of the shroud for dispersing air flow leaving the blowing fan in the radial direction of the blowing fan to reduce generation of turbulence.

15 2. The blower as set forth in claim 1, wherein the blowing fan is an axial flow fan comprising a hub connected to the motor via the rotating shaft of the motor for transmitting the rotating force of the motor, the hub including a front end and a rear end having the same diameter as the front end to 20 guide the air flow in the radial direction of the hub, and a plurality of equally spaced blades attached on the outer circumference of the hub for blowing the cool air in the radial direction of the fan.

25 3. The blower as set forth in claim 1, wherein the air

flow guiding means comprises an air flow guiding surface formed around the central hole and inclined downwardly in the radial direction thereof in case that the shroud is mounted horizontally.

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4. The blower as set forth in claim 3, wherein the shroud further comprises a bell mouth formed in the shape of a circular groove for guiding the flow of the cool air between the central hole and the air flow guiding surface.

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5. The blower as set forth in claim 4, wherein the shroud further comprises a horizontal portion formed in the shape of a plane, the horizontal portion being connected between the bell mouth and the air flow guiding surface.

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6. The blower as set forth in claim 5, wherein the air flow guiding surface is formed in the shape of a downwardly inclined concave.

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7. The blower as set forth in claim 5, wherein the air flow guiding surface is formed in the shape of a downwardly inclined plane.

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8. A cool air circulating blower for a refrigerator comprising:

a blowing fan for upwardly blowing cool air;

a shroud having a central hole formed therethrough and disposed horizontally for guiding air flow, the blowing fan being disposed inside the central hole of the shroud;

5 a motor mounted below the blowing fan and connected to the blowing fan via a rotating shaft of the motor; and

draining means formed at the shroud for guiding and draining condensed water obtained by condensation of moisture laden in the cool air and having dropped onto the shroud to 10 places other than the motor.

9. The blower as set forth in claim 8, wherein the blowing fan is an axial flow fan comprising a hub connected to the motor via the rotating shaft of the motor for transmitting 15 the rotating force, the hub including a front end and a rear end having the same diameter as the front end to guide the air flow in the radial direction of the hub, and a plurality of equally spaced blades attached on the outer circumference of the hub for blowing the cool air in the radial direction of 20 the fan.

10. The blower as set forth in claim 8, wherein a motor supporting bracket for fixing the motor to the shroud around the central hole is provided beneath the shroud.

11. The blower as set forth in claim 10, wherein the  
motor supporting bracket comprises a main supporting body  
disposed apart below the central hole for fixing the motor,  
and a plurality of supporting bars connected between the main  
5 supporting body and the edge of the central hole.

12. The blower as set forth in claim 8, wherein the  
shroud further comprises a bell mouth formed around the  
central hole in the shape of a circular groove for guiding the  
10 flow of the cool air.

13. The blower as set forth in claim 12, wherein the  
draining means comprises a draining groove formed at one side  
on the circumference of the bell mouth in the longitudinal  
15 direction of the shroud, the draining groove communicating  
with the bottom surface of the bell mouth.

14. The blower as set forth in claim 12, wherein the  
draining means comprises a pair of draining grooves formed at  
20 the opposite sides on the circumference of the bell mouth in  
the longitudinal direction of the shroud, the draining groove  
communicating with the bottom surface of the bell mouth.

15. The blower as set forth in claim 13 wherein the  
25 bottom surface of the draining groove is flush with the bottom

surface of the bell mouth.

16. The blower as set forth in claim 13 wherein the bottom surface of the draining groove is inclined downwardly  
5 in the radial direction of the bell mouth.

17. The blower as set forth in claim 13 wherein the draining means further comprises a draining surface connected to the draining groove, the draining surface being inclined downwardly in the radial direction of the bell mouth.  
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18. The blower as set forth in claim 17, wherein the draining surface has a front end and a rear end inclined more steeply than the front end, whereby the condensed water is guided to the rear end of the draining surface and then flows down along the wall of an outer case in case that the shroud is disposed in a flow channel defined between the outer case and an inner case, and the front end of the draining surface is disposed closest to the inner case and the rear end of the  
15 draining surface is disposed closest to the outer case.  
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19. The blower as set forth in claim 18, wherein the draining surface has a gradual downward inclination from the front end of the draining surface to the rear end of the  
25 draining surface.